-46-

# CLAIMS

# What is claimed is:

5	1.	Novel peptides of the formula I		
		$R^1R^2$	$^{2}$ N-CHX-CO-A-B-D-E-(G) $_{s}$ -K	
		where		
		$\mathbb{R}^1$	is hydrogen, methyl; or ethyl;	
		$R^2$	is methyl; or ethyl; or	
10		$R^1$ -N- $R^2$	together are a pyrrolidine ring;	
		A	is a valyl, isoleucyl, allo-isoleucyl, 2-tert-butylglycyl, 2-	
			ethylglycyl, norleucyl or norvalyl residue;	
		В	is a N-methyl-valyl, N-methyl-norvalyl, N-methyl-leucyl, N-	
			methyl-isoleucyl, N-methyl-2-tert-butylglycyl, N-methyl-2-	
15			ethylglycyl, or N-methyl-norleucyl residue;	
		D	is a prolyl, homoprolyl, hydroxyprolyl, or thiazolidine-4-carbonyl	
			residue;	
		E	is a prolyl, homoprolyl, hydroxyprolyl, thiazolidine-4-carbonyl,	
			trans-4-fluoro-L-prolyl, cis-4-fluoro-L-prolyl, trans-4-chloro-L-	
20			prolyl or cis-4-chloro-L-prolyl residue;	
		X	is ethyl, propyl, butyl, isopropyl, sec. butyl, tertbutyl,	
			cyclopropyl, or cyclopentyl;	
		G	is a L-2-tert.butylglycyl, D-2-terr.butylglycyl, D-valyl, D-	
			isoleucyl, D-leucyl, D-norvalyl, 1-aminopentyl-1-carbonyl, or 2,2-	
25			dimethylglycyl residue;	
		S	is 0 or 1;	
		K	is -NH- $C_{1-8}$ -alkyl, -NH- $C_{3-8}$ -alkenyl, -NH- $C_{3-8}$ -alkinyl, -NH- $C_{6-8}$ -	
			cycloalkyl, -NH- $C_{1-4}$ -alkene- $C_{3-8}$ -cycloalkyl, $C_{1-4}$ -alkyl- $N$ - $C_{1-6}$ -	
			alkyl, in which residues one CH <sub>2</sub> group may be replaced by O or	

S, one H by phenyl or cyano, or 1, 2 or 3 H by F, except the N-methoxy-N-methylamino, N-benzylamino, or N-methyl-N-benzylamino residue, or K is

and the salts thereof with physiologically tolerated acids.

## 2. Novel peptides of the formula I

	2.	Novel peptides of the formula I		
		$R^1R^2N$	-CHX-CO-A-B-D-E-(G) <sub>s</sub> -K	
		where		
		$\mathbb{R}^1$	is hydrogen, methyl; or ethyl;	
5		$\mathbb{R}^2$	is methyl; or ethyl; or	
		$R^1$ -N- $R^2$	together are a pyrrolidine ring;	
		A	is a valyl, isoleucyl, allo-isoleucyl, 2-tert-butylglycyl, 2-	
			ethylglycyl, norleucyl or norvalyl residue;	
		В	is a N-methyl-valyl, N-methyl-norvalyl, N-methyl-leucyl, N-	
10			methyl-isoleucyl, N-methyl-2-tert-butylglycyl, N-methyl-2-	
			ethylglycyl, or N-methyl-norleucyl residue;	
		D	is a prolyl, homoprolyl, hydroxyprolyl, or thiazolidine-4-carbonyl	
			residue;	
		E	is a prolyl, homoprolyl, hydroxyprolyl, thiazolidine-4-carbonyl,	
15			trans-4-fluoro-L-prolyl, cis-4-fluoro-L-prolyl, trans-4-chloro-L-	
			prolyl or cis-4-chloro-L-prolyl residue;	
		X	is ethyl, propyl, butyl, isopropyl, sec. butyl, tert.butyl, cyclopropyl,	
			or cyclopentyl;	
		G	is a L-2-tert.butylglycyl, D-2-terr.butylglycyl, D-valyl, D-	
20			isoleucyl, D-leucyl, D-norvalyl, 1-aminopentyl-1-carbonyl, or 2,2-	
			dimethylglycyl residue;	
		S	is 0 or 1;	
		K	-NHCH <sub>3</sub> , -NHCH <sub>2</sub> CH <sub>3</sub> , -NH(CH <sub>2</sub> ) <sub>2</sub> CH <sub>3</sub> , -NH(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub> ,	
			$-\mathrm{NH}(\mathrm{CH}_2)_4\mathrm{CH}_3, -\mathrm{NH}(\mathrm{CH}_2)_5\mathrm{CH}_3, -\mathrm{NH}(\mathrm{CH}_2)_6\mathrm{CH}_3,$	
25			-NHCH(CH <sub>2</sub> ) <sub>7</sub> CH <sub>3</sub> , -NHCH(CH <sub>3</sub> ) <sub>2</sub> , -NHCH(CH <sub>3</sub> )CH <sub>2</sub> CH <sub>3</sub> ,	
			-NHCH(CH <sub>2</sub> CH <sub>3</sub> ) <sub>2</sub> , -NHCH(CH <sub>2</sub> CH <sub>2</sub> CH <sub>3</sub> ) <sub>2</sub> , -NHC(CH <sub>3</sub> ) <sub>3</sub> ,	
			-NHCH(CH <sub>2</sub> CH <sub>3</sub> )CH <sub>2</sub> CH <sub>2</sub> CH <sub>3</sub> , -NHCH(CH <sub>3</sub> )CH(CH <sub>3</sub> ) <sub>2</sub> ,	
			-NHCH(CH <sub>2</sub> CH <sub>3</sub> )CH(CH <sub>3</sub> ) <sub>2</sub> , -NHCH(CH <sub>3</sub> )C(CH <sub>3</sub> ) <sub>3</sub> ,	
			-NH-cyclohexyl, -NH-cycloheptyl, -NH-cyclooctyl,	

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-N(CH<sub>3</sub>)OCH<sub>2</sub>CH<sub>3</sub>, -N(CH<sub>3</sub>)OCH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>, -N(CH<sub>3</sub>)OCH(CH<sub>3</sub>)<sub>2</sub>,

-N(CH<sub>3</sub>)O(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>, -N(CH<sub>3</sub>)OCH<sub>2</sub>C<sub>6</sub>H<sub>5</sub>, -NH(CH<sub>2</sub>)<sub>2</sub>C<sub>6</sub>H<sub>5</sub>,

-NH(CH<sub>2</sub>)<sub>3</sub>C<sub>6</sub>H<sub>5</sub>, -NHCH(CH<sub>3</sub>)C<sub>6</sub>H<sub>5</sub>, -NHC(CH<sub>3</sub>)<sub>2</sub>C<sub>6</sub>H<sub>5</sub>,

-NHC(CH<sub>3</sub>)<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>, -NHC(CH<sub>3</sub>)(CH<sub>2</sub>CH<sub>3</sub>)<sub>2</sub>, -NHCH[CH(CH<sub>3</sub>)<sub>2</sub>]<sub>2</sub>,

-NHC(CH<sub>3</sub>)<sub>2</sub>CN, -NHCH(CH<sub>3</sub>)CH(OH)C<sub>6</sub>H<sub>5</sub>, -NHCH<sub>2</sub>-cyclohexyl,

-NHCH<sub>2</sub>C(CH<sub>3</sub>)<sub>3</sub>, -NHCH<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>, -NHCH<sub>2</sub>CF<sub>3</sub>, -NHCH(CH<sub>2</sub>F)<sub>2</sub>,

-NHCH<sub>2</sub>CH<sub>2</sub>F, -NHCH<sub>2</sub>CH<sub>2</sub>OCH<sub>3</sub>, -NHCH<sub>2</sub>CH<sub>2</sub>SCH<sub>3</sub>,

 $-NHCH_2CHCH_2$ ,  $-NH-C(CH_3)_2CH=CH_2$ ,  $-NHC(CH_3)_2C=CH$ ,

-NHC( $CH_2CH_3$ )<sub>2</sub>C = CH, -NHC( $CH_3$ )<sub>2</sub> $CH_2CH_2OH$ ,

 $\hbox{-NH}(CH_2CH_2O)_2CH_2CH_3, \hbox{-NHC}(CH_3)_2CH(CH_3)_2,$ 

-NHC(CH<sub>3</sub>)<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>, -NHC(CH<sub>3</sub>)<sub>2</sub>CH<sub>2</sub>C<sub>6</sub>H<sub>5</sub>,

-N(OCH<sub>3</sub>)CH(CH<sub>3</sub>)<sub>2</sub>, -N(OCH<sub>3</sub>)CH<sub>2</sub>CH<sub>3</sub>, -N(OCH<sub>3</sub>)CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>,

 $-N(OCH_{3})CH_{2}C_{6}H_{5}, -N(OCH_{3})C_{6}H_{5}, -N(CH_{3})OC_{6}H_{5}, \\$ 

-NHCH[CH(CH<sub>3</sub>)<sub>2</sub>]<sub>2</sub>, -N(OCH<sub>3</sub>)CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>,

or K is

$$-N \longrightarrow -N \longrightarrow -N \longrightarrow -NH \longrightarrow -NH \longrightarrow 0$$

$$-NH$$

$$-NH$$

$$-NH$$

$$-NH$$

$$-NH$$
  $-NH$   $-NH$   $-NH$   $-NH$   $-NH$   $-NH$ 

CH<sub>3</sub>

-NH -NH

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And the salts thereof with physiologically tolerated acids.

### 3. Novel peptides of the formula I

R<sup>1</sup>R<sup>2</sup>N-CHX-CO-A-B-D-E-(G)<sub>s</sub>-K Ι where 15  $R^1$ is hydrogen, methyl; or ethyl;  $\mathbb{R}^2$ is methyl; or ethyl; is a valyl, isoleucyl, 2-tert-butylglycyl, 2-ethylglycyl, norleucyl or Α norvalyl residue; 20 В is a N-methyl-valyl, N-methyl-norvalyl, N-methyl-isoleucyl, Nmethyl-2-tert-butylglycyl, N-methyl-2-ethylglycyl, or N-methylnorleucyl residue; D is a prolyl, or thiazolidine-4-carbonyl residue; Ε is a prolyl, homoprolyl, thiazolidine-4-carbonyl, trans-4-fluoro-L-25 prolyl, cis-4-fluoro-L-prolyl, trans-4-chloro-L-prolyl or cis-4chloro-L-prolyl residue; X is ethyl, propyl, isopropyl, sec. butyl, tert.-butyl, or cyclopropyl; G is a L-2-tert.butylglycyl, D-2-terr.butylglycyl, D-valyl, D-isoleucyl, D-leucyl, or 2,2-dimethylglycyl residue;

s is 0 or 1;

K is -NH-C<sub>1-8</sub>-alkyl, -NH-C<sub>6-8</sub>-cycloalkyl, -NH-CH<sub>2</sub>-cyclohexyl, C<sub>1-4</sub>-alkyl-N-C<sub>1-6</sub>-alkyl, in which residues one CH<sub>2</sub> group may be replaced by O, one H by phenyl or 1 or 2 H by F, except the N-methoxy-N-methylamino, N-benzylamino or N-methyl-N-benzylamino residue, or K is

$$-NH \longrightarrow -NH \longrightarrow -NH$$

$$-NH \xrightarrow{CH_3} -NH \xrightarrow{CH_3} CONH_2 , -NO$$

$$-NH \longrightarrow CF -NH \longrightarrow CO - NH - CH_2 - CH_2 - CH_3 .$$

#### 4. Novel peptides of the formula I

 $R^1R^2N$ -CHX-CO-A-B-D-E-(G)<sub>s</sub>-K

I

where

R<sup>1</sup> is methyl;

5 R<sup>2</sup> is methyl;

A is a valyl, isoleucyl, 2-tert-butylglycyl, or 2-ethylglycyl;

B is a N-methyl-valyl, N-methyl-isoleucyl, N-methyl-2-tert-

butylglycyl, N-methyl-2-ethylglycyl, or N-methyl-norleucyl residue;

D is a prolyl, or thiazolidine-4-carbonyl residue;

10 E is a prolyl, trans-4-fluoro-L-prolyl, cis-4-fluoro-L-prolyl, trans-4-

chloro-L-prolyl or cis-4-chloro-L-prolyl residue;

X is ethyl, isopropyl, sec. butyl, or tert.butyl;

G is a L-2-tert.butylglycyl, D-2-terr.butylglycyl, D-valyl, D-isoleucyl,

D-leucyl, or 2,2-dimethylglycyl residue;

15 s is 0 or 1;

K is -NH- $C_{1-8}$ -alkyl, -NH- $C_{6-8}$ -cycloalkyl, -NH- $CH_2$ -cyclohexyl,  $C_{1-4}$ -

alkyl-N-C<sub>1-6</sub>-alkyl, in which residues one CH<sub>2</sub> group may be

replaced by O, one H by phenyl or 1 or 2 H by F, except the N-

methoxy-N-methylamino, N-benzylamino or N-methyl-N-

20 benzylamino residue, or K is

$$H_3C$$
 $-NH$ 
 $-NH$ 

$$-NH$$
  $-NH$   $-NH$ 

$$-NH$$
  $-NH$   $-NH$ 

$$-NH \longrightarrow -NH \longrightarrow CH_3 \quad CH_3 \quad OF$$

$$CH_3 \quad CH_3 \quad OF$$

$$-NH$$
  $-CH_3$   $-CH_2$   $-CH_3$ 

5. Novel peptides of the formula I

 $R^1R^2N$ -CHX-CO-A-B-D-E-(G)<sub>s</sub>-K

where

15 R<sup>1</sup> is methyl;

R<sup>2</sup> is methyl;

A is a valyl, isoleucyl, or 2-tert-butylglycyl residue;

B is a N-methyl-valyl, N-methyl-isoleucyl, or N-methyl-2-tert-

butylglycyl residue;

20 D is a prolyl, or thiazolidine-4-carbonyl residue;

E is a prolyl, cis-4-fluoro-L-prolyl or cis-4-chloro-L-prolyl residue;

X is isopropyl, sec. butyl, or tert.-butyl;

s is 0 or 1;

K is -NHC(CH<sub>3</sub>)<sub>3</sub>, -NHCH(CH<sub>2</sub>CH<sub>2</sub>)CH(CH<sub>3</sub>)<sub>2</sub>, -NHCH(CH<sub>3</sub>)C(CH<sub>3</sub>)<sub>3</sub>,

-N(CH<sub>3</sub>)OCH<sub>2</sub>CH<sub>3</sub>, -N(CH<sub>3</sub>)OCH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>, -N(CH<sub>3</sub>)OCH(CH<sub>3</sub>)<sub>2</sub>,

-N(CH<sub>3</sub>)O(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>, -N(CH<sub>3</sub>)OCH<sub>2</sub>C<sub>6</sub>H<sub>5</sub>, -NHC(CH<sub>3</sub>)<sub>2</sub>C<sub>6</sub>H<sub>5</sub>,

-NHC(CH<sub>3</sub>)<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>, -NHC(CH<sub>3</sub>) (CH<sub>2</sub>CH<sub>3</sub>)<sub>2</sub>

-NHCH[CH(CH<sub>3</sub>)<sub>2</sub>]<sub>2</sub>, -NHC(CH<sub>3</sub>)<sub>2</sub>CN, -NHCH(CH<sub>3</sub>)CH(OH)C<sub>6</sub>H<sub>5</sub>,

-NH-C(CH<sub>3</sub>)<sub>2</sub>CH=CH<sub>2</sub>, -NHC(CH<sub>3</sub>)<sub>2</sub>C $\equiv$ CH,

-NHC( $CH_2CH_3$ )<sub>2</sub>C = CH, -NHC( $CH_3$ )<sub>2</sub> $CH_2CH_2OH$ ,

-NHC(CH<sub>3</sub>)<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>, -NHC(CH<sub>3</sub>)<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>,

 $-NHC(CH_{3})_{2}CH_{2}C_{6}H_{5},\ -N(OCH_{3})CH(CH_{3})_{2},\ -N(OCH_{3})CH_{2}CH_{3},\\$ 

-N(OCH<sub>3</sub>)CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>, -N(OCH<sub>3</sub>)CH<sub>2</sub>C<sub>6</sub>H<sub>5</sub>, -N(OCH<sub>3</sub>)C<sub>6</sub>H<sub>5</sub>,

-N(CH<sub>3</sub>)OC<sub>6</sub>H<sub>5</sub>, -N(OCH<sub>3</sub>)CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>,

or K is

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$$-NH$$
  $\stackrel{CH_3}{\longrightarrow}$  ,  $-NH$   $\stackrel{CH_3}{\longrightarrow}$  ,  $-NH$   $\stackrel{CH_3}{\longrightarrow}$  ,

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$$-NH$$
  $CH_3$   $CH_3$   $CH_3$   $CH_3$   $CH_3$   $CO-NH-CH_2-CH_2-CH_3$   $CONH_2$ 

20

and the salts thereof with physiologically tolerated acids.

6. Novel peptides of the formula I

$$R^1R^2N$$
-CHX-CO-A-B-D-E-(G)<sub>s</sub>-K

where

R<sup>1</sup> is methyl;

R<sup>2</sup> is methyl;

A is a valyl residue;

B is a N-methyl-valyl residue;

D is a prolyl residue; E is a prolyl residue; X is isopropyl; is 0 or 1; s 5 K is  $-NHC(CH_3)_3$ ,  $-NHCH(CH_2CH_2)CH(CH_3)_2$ ,  $-NHCH(CH_3)C(CH_3)_3$ , -N(CH<sub>3</sub>)OCH<sub>2</sub>CH<sub>3</sub>, -N(CH<sub>3</sub>)OCH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>, -N(CH<sub>3</sub>)OCH(CH<sub>3</sub>)<sub>2</sub>, -N(CH<sub>3</sub>)O(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>, -N(CH<sub>3</sub>)OCH<sub>2</sub>C<sub>6</sub>H<sub>5</sub>, -NHC(CH<sub>3</sub>)<sub>2</sub>C<sub>6</sub>H<sub>5</sub>, -NHC(CH<sub>3</sub>)<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>, -NHC(CH<sub>3</sub>) (CH<sub>2</sub>CH<sub>3</sub>)<sub>2</sub> -NHCH[CH(CH<sub>3</sub>)<sub>2</sub>]<sub>2</sub>, -NHC(CH<sub>3</sub>)<sub>2</sub>CN, -NHCH(CH<sub>3</sub>)CH(OH)C<sub>6</sub>H<sub>5</sub>, 10  $-NH-C(CH_3)_2CH=CH_2$ ,  $-NHC(CH_3)_2C=CH$ , -NHC(CH<sub>2</sub>CH<sub>3</sub>)<sub>2</sub>C $\equiv$ CH, -NHC(CH<sub>3</sub>)<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OH, -NHC(CH<sub>3</sub>)<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>, -NHC(CH<sub>3</sub>)<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>,  $-NHC(CH_3)_2CH_2C_6H_5$ ,  $-N(OCH_3)CH(CH_3)_2$ ,  $-N(OCH_3)CH_2CH_3$ , -N(OCH<sub>3</sub>)CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>, -N(OCH<sub>3</sub>)CH<sub>2</sub>C<sub>6</sub>H<sub>5</sub>, -N(OCH<sub>3</sub>)C<sub>6</sub>H<sub>5</sub>, 15 -N(CH<sub>3</sub>)OC<sub>6</sub>H<sub>5</sub>, -N(OCH<sub>3</sub>)CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>

or K is

$$-NH$$
  $-NH$   $-NH$   $-NH$   $-NH$   $-NH$   $-NH$   $-NH$ 

CH<sub>3</sub> CH<sub>3</sub> CH<sub>3</sub> CH<sub>3</sub> CH<sub>3</sub> 
$$CH_3$$
 CH<sub>3</sub>  $CH_3$   $CH_3$ 

and the salts thereof with physiologically tolerated acids.

### 7. Novel peptides of the formula I

 $R^1R^2N$ -CHX-CO-A-B-D-E-(G) $_s$ -K I where is methyl;  $R^1$  $\mathbb{R}^2$ is methyl; 5 is a valyl, isoleucyl, or 2-tert-butylglycyl residue; Α is a N-methyl-valyl, N-methyl-isoleucyl, or N-methyl-2-tert-В butylglycyl residue; is a prolyl, or thiazolidine-4-carbonyl residue; D is a prolyl residue; 10 Ε is isopropyl, sec. butyl, or tert.-butyl; X is a D-2-tert.butylglycyl, D-isoleucyl, 2,2-dimethylglycyl residue, G D-valyl or L-2-tert.butylglycyl; is 1; S is -NHCH<sub>3</sub>, -NHCH<sub>2</sub>CH<sub>3</sub>, -NH(CH<sub>2</sub>)<sub>2</sub>CH<sub>3</sub>, -NH(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>, K 15 -NH(CH<sub>2</sub>)<sub>4</sub>CH<sub>3</sub>, -NH(CH<sub>2</sub>)<sub>5</sub>CH<sub>3</sub>, -NHCH(CH<sub>3</sub>)<sub>2</sub>,  $\hbox{-NHCH}(CH_3)CH_2CH_3, \hbox{-NHCH}(CH_2CH_3)_2, \hbox{-NHC}(CH_3)_3, \hbox{-NH-}$ 

cyclohexyl, -NHC( $CH_3$ )<sub>2</sub>CN, -NCH( $CH_3$ )<sub>2</sub> $C \equiv CH$  or

20 or K is

-NHC( $CH_3$ )<sub>2</sub> $CONH_2$ ;

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and the salts thereof with physiologically tolerated acids.

- 8. Compounds of formula I or salts thereof for use in treating diseases.
- 9. The method or preparing compounds of formula I according to claim 1 characterized in that they are prepared according to known methods of peptide chemistry.